

Amendments to the Claims:

1. (currently amended): An implantable medical device comprising:
  - a housing;
  - a valve disposed within said housing;
  - a non-invasively wirelessly powered first pressure sensor disposed within said housing and upstream of said valve;
  - a non-invasively wirelessly powered second pressure sensor disposed within said housing and downstream of said valve; and
  - a non-invasively wirelessly powered CPU disposed within said housing and being operatively connected to said first pressure sensor and said second pressure sensor.
2. (original): The device according to claim 1, wherein the CPU is electrically connected to said first pressure sensor and said second pressure sensor.
3. (currently amended): The device according to claim 2, wherein the CPU ~~has means for wirelessly communicating~~ is adapted to communicate within an external device.
4. (previously presented):The device according to claim 3, wherein the CPU has means for calculating a differential pressure between the first pressure sensor and the second pressure sensor.
5. (previously presented):The device according to claim 1, wherein the CPU has means for calculating a differential pressure between the first pressure sensor and the second pressure sensor.
6. (original): The device according to claim 1, further comprising a first catheter fluidly connected to said housing, and a third pressure sensor disposed within said first catheter.

7. (original): The device according to claim 6, wherein said third pressure sensor is operatively connected to said CPU.
8. (original): The device according to claim 7, wherein said first catheter is fluidly connected to said housing upstream of said valve.
9. (currently amended): The device according to claim 8, wherein the CPU ~~has means for wirelessly communicating~~ is adapted to communicate with an external device.
10. (previously presented): The device according to claim 9, wherein the CPU has means for calculating a differential pressure between the first pressure sensor and the second pressure sensor, and for calculating a differential pressure between the third pressure sensor and at least one of the first pressure sensor and the second pressure sensor.
11. (original): The device according to claim 10, further comprising a second catheter fluidly connected to said housing, and a fourth pressure sensor disposed within said second catheter.
12. (original): The device according to claim 11, wherein said fourth pressure sensor is electrically connected to said CPU.
13. (original): The device according to claim 12, wherein said second catheter is fluidly connected to said housing downstream of said valve.
14. (previously presented): The device according to claim 13, wherein the CPU has means for calculating a differential pressure between the first pressure sensor and the second pressure sensor and for calculating a differential pressure between the fourth pressure sensor and at least one of the first pressure sensor, the second pressure sensor and the third pressure sensor.

15. (currently amended): The device according to claim 1, wherein the CPU ~~has means for being~~ is non-invasively powered using RF.

16. (currently amended): The device according to claim 1, wherein the CPU ~~has means for being~~ is non-invasively powered using acoustics.

17. (currently amended): The device according to claim 1, wherein the CPU ~~has means for being~~ is non-invasively powered using optics.

18. (currently amended): An implantable medical device comprising:  
a housing;  
a valve disposed within said housing;  
a non-invasively wirelessly powered first pressure sensor disposed within said housing and upstream of said valve;  
a non-invasively wirelessly powered second pressure sensor disposed within said housing and downstream of said valve; and  
a non-invasively wirelessly powered CPU being operatively connected to said first pressure sensor and said second pressure sensor.

19. (original): The implantable medical device according to claim 18, wherein said CPU is disposed within said housing.

20. (original): The implantable medical device according to claim 18, wherein said CPU is disposed external to said housing.

21. (currently amended): A method for diagnosing the performance of an implanted medical device, wherein the implanted medical device has:

- a housing;
- a valve disposed within said housing;

a non-invasively wirelessly powered first pressure sensor disposed within said housing and upstream of said valve;

a non-invasively wirelessly powered second pressure sensor disposed within said housing and downstream of said valve; and

a non-invasively wirelessly powered CPU disposed within said housing and being operatively connected to said first pressure sensor and said second pressure sensor,

the method comprising the steps of:

comparing the pressure measured by the first pressure sensor to the pressure measured by the second pressure sensor; and

wirelessly communicating the compared pressures to an external device.

22. (original): The method according to claim 21, wherein the device further has a first catheter fluidly connected to said housing, and a third pressure sensor disposed within said first catheter, said method further comprising the steps of:

comparing the pressure measured by the third pressure sensor to one of the pressure measured by the first pressure sensor and second pressure sensor.

23. (original): The method according to claim 22, wherein the device further comprising a second catheter fluidly connected to said housing, and fourth pressure sensor disposed within said second catheter, said method further comprising the step of:

comparing the pressure measured by the fourth pressure sensor to one of the pressure measured by the first pressure sensor, the second pressure sensor and third pressure sensor.

24. (currently amended): A method of diagnosing the performance of an implanted medical device wherein the implanted medical device has:

a housing;

a valve disposed within said housing;

a non-invasively wirelessly powered first pressure sensor disposed within said housing and upstream of said valve;

a non-invasively wirelessly powered second pressure sensor disposed within said housing and downstream of said valve; and

a non-invasively wirelessly powered CPU disposed within said housing and being operatively connected to said first pressure sensor and said second pressure sensor,

the method comprising the steps of:

determining by the CPU, the pressure detected by the first pressure sensor;

determining by the CPU, the pressure detected by the second pressure sensor; and

wirelessly communicating the determined pressures to an external device.

25. (currently amended): An implantable medical device comprising:

a housing;

a valve disposed within said housing;

a non-invasively wirelessly powered differential pressure sensor disposed within said housing ; and

a non-invasively wirelessly powered CPU disposed within said housing and being electrically connected to said differential pressure sensor.

26. (currently amended): The device according to claim 25 wherein the CPU ~~has means for wirelessly communicating~~ is adapted to communicate within an external device.

27. (currently amended): The device according to claim 25, further comprising a first catheter fluidly connected to said housing, and a non-invasively wirelessly powered second pressure sensor disposed within said first catheter.

28. (original): The device according to claim 27, wherein said second pressure sensor is operatively connected to said CPU.

29. (original): The device according to claim 28, wherein said first catheter is fluidly connected to said housing upstream of said valve.
30. (currently amended): The device according to claim 29, wherein the CPU ~~has means for wirelessly communicating~~ is adapted to communicate with an external device.
31. (original): The device according to claim 30, further comprising a second catheter fluidly connected to said housing, and a third pressure sensor disposed within said second catheter.
32. (original): The device according to claim 31, wherein said third pressure sensor is operatively connected to said CPU.
33. (original): The device according to claim 32, wherein said second catheter is fluidly connected to said housing downstream of said valve.
34. (currently amended): The device according to claim 25, wherein the CPU ~~has means for being~~ is non-invasively powered using RF.
35. (currently amended): The device according to claim 25, wherein the CPU ~~has means for being~~ is non-invasively powered using acoustics.
36. (currently amended): The device according to claim 25, wherein the CPU ~~has means for being~~ is non-invasively powered using optics.
37. (currently amended): A method of diagnosing the performance of an implanted medical device wherein the implanted medical device has:
- a housing;
  - a valve disposed within said housing;

a non-invasively wirelessly powered differential pressure sensor disposed within said housing; and

a non-invasively wirelessly powered CPU disposed within said housing and being electrically connected to said differential pressure sensor,

the method comprising the steps of:

determining by the CPU, the pressure detected by the differential pressure sensor; and

wirelessly communicating the determined pressure to an external device.

38. (currently amended): A method for diagnosing the performance of an implanted medical device, wherein the implanted medical device has:

a housing;

a valve disposed within said housing;

a non-invasively wirelessly powered first pressure sensor disposed within said housing and upstream of said valve; and

a non-invasively wirelessly powered second pressure sensor disposed within said housing and downstream of said valve;

the method comprising the steps of:

wirelessly communicating a signal representative of the pressure detected by the first pressure sensor to an external device;

wirelessly communicating a signal representative of the pressure detected by the second pressure sensor to an external device; and

comparing the pressure detected by the first pressure sensor to the pressure detected by the second pressure sensor with the external device.

39. (currently amended): A method for diagnosing the performance of an implanted medical device, wherein the implanted medical device has:

a housing;

a valve disposed within said housing;

a non-invasively wirelessly powered first pressure sensor disposed within said housing and upstream of said valve; and

a non-invasively wirelessly powered second pressure sensor disposed within said housing and downstream of said valve;

the method comprising the steps of:

generating a signal from the first pressure sensor;

generating a signal from the second pressure sensor;

comparing the signals from the first pressure sensor and the second pressure sensor;

generating a signal representative of the difference in pressure between the pressure measured by the first pressure sensor and the pressure measured by the second pressure sensor;

wirelessly communicating the signal representative of the difference in pressure to an external device.

40. (currently amended): An implantable medical device comprising:  
a housing;

a valve disposed within said housing;

a non-invasively wirelessly powered first pressure sensor disposed within said housing and upstream of said valve; and

a non-invasively wirelessly powered second pressure sensor disposed within said housing and downstream of said valve.

41. (previously presented): The device according to claim 1, wherein said first pressure sensor and said second pressure sensor are disposed on a common substrate.

42. (canceled)

43. (previously presented): The device according to claim 18, wherein said first pressure sensor and said second pressure sensor are disposed on a common substrate.

44. (previously presented): The device according to claim 43, wherein said CPU is disposed on said common substrate.



45. (previously presented): The device according to claim 25, wherein said differential pressure sensor and said CPU are disposed on a common substrate.

46. (previously presented): The device according to claim 40, wherein said first pressure sensor and said second pressure sensor are disposed on a common substrate.